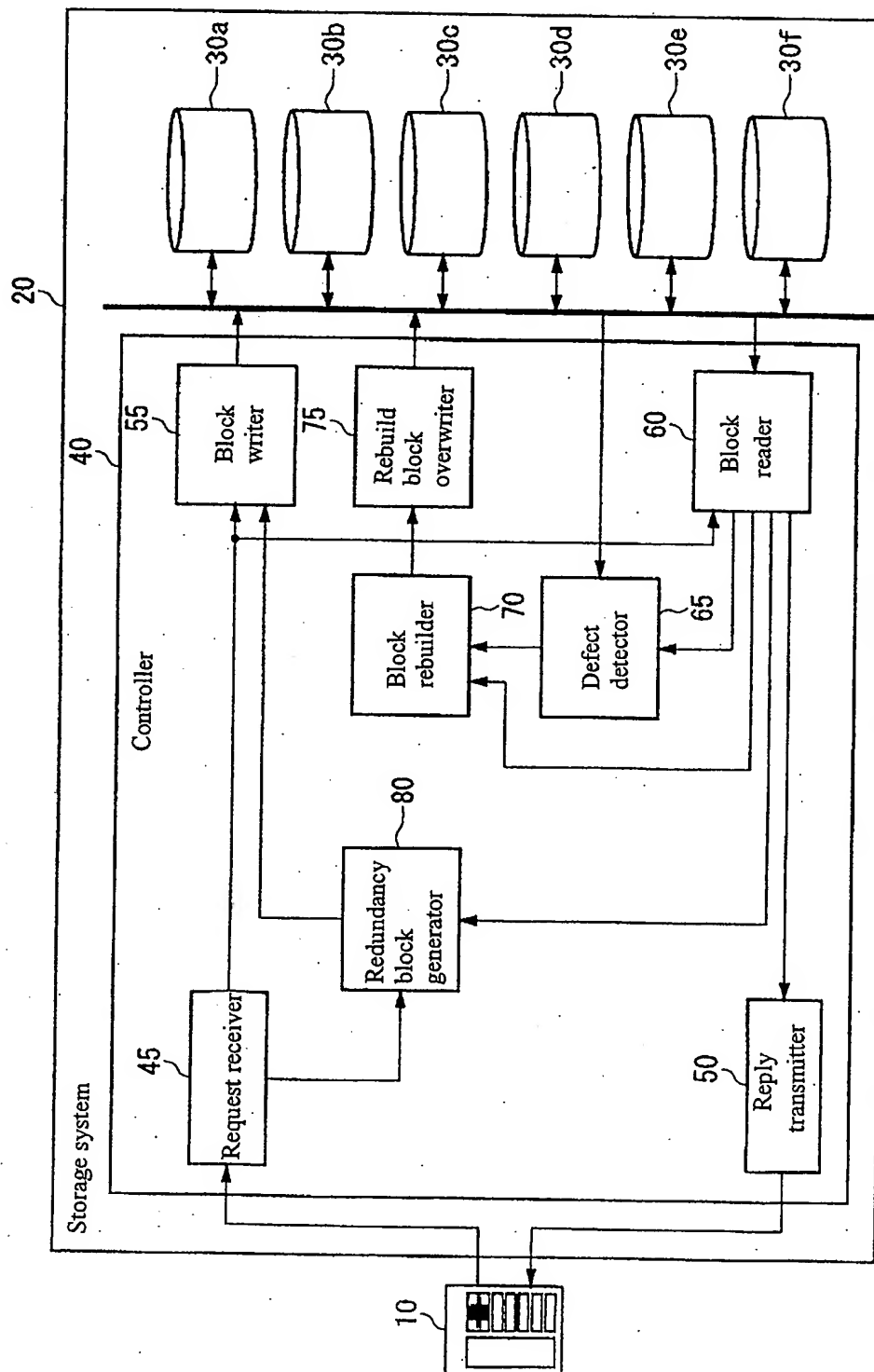[Document type] Drawing

[Figure 1]   (1/11)

[Figure 2]

	Storage device 30a	Storage device 30b	Storage device 30c	Storage device 30d	Storage device 30e	Storage device 30f
Stripe 1	DB1a	DB1b	DB1c	DB1d	PB1	PB1'
Stripe 2	DB2b	DB2c	DB2d	PB2	PB2'	DB2a
Stripe 3	DB3c	DB3d	PB3	PB3'	DB3a	DB3b
Stripe 4	DB4d	PB4	PB4'	DB4a	DB4b	DB4c
Stripe 5	PB5	PB5'	DB5a	DB5b	DB5c	DB5d
Stripe 6	PB6'	DB6a	DB6b	DB6c	DB6d	PB6

[Figure 3]

```
                    ( START )
                         │
                         ▼
        ┌─────────────────────────────┐
        │      Receive write request  │───S300
        └─────────────────────────────┘
                         │
                         ▼
        ┌─────────────────────────────┐
        │   Read data block to which  │───S310
        │   data is to be written     │
        └─────────────────────────────┘
                         │
                         ▼
        ┌─────────────────────────────┐
        │   Read original redundancy  │───S320
        │   block                     │
        └─────────────────────────────┘
                         │
                         ▼
        ┌─────────────────────────────┐
        │   Generate new redundancy   │───S330
        │   block                     │
        └─────────────────────────────┘
                         │
                         ▼
        ┌─────────────────────────────┐
        │  Write write data to data   │───S340
        │  block to which data is     │
        │  to be written              │
        └─────────────────────────────┘
                         │
                         ▼
        ┌─────────────────────────────┐
        │  Write new redundancy block │
        │  to original redundancy     │───S350
        │  block and copied block     │
        └─────────────────────────────┘
                         │
                         ▼
                    (  END  )
```
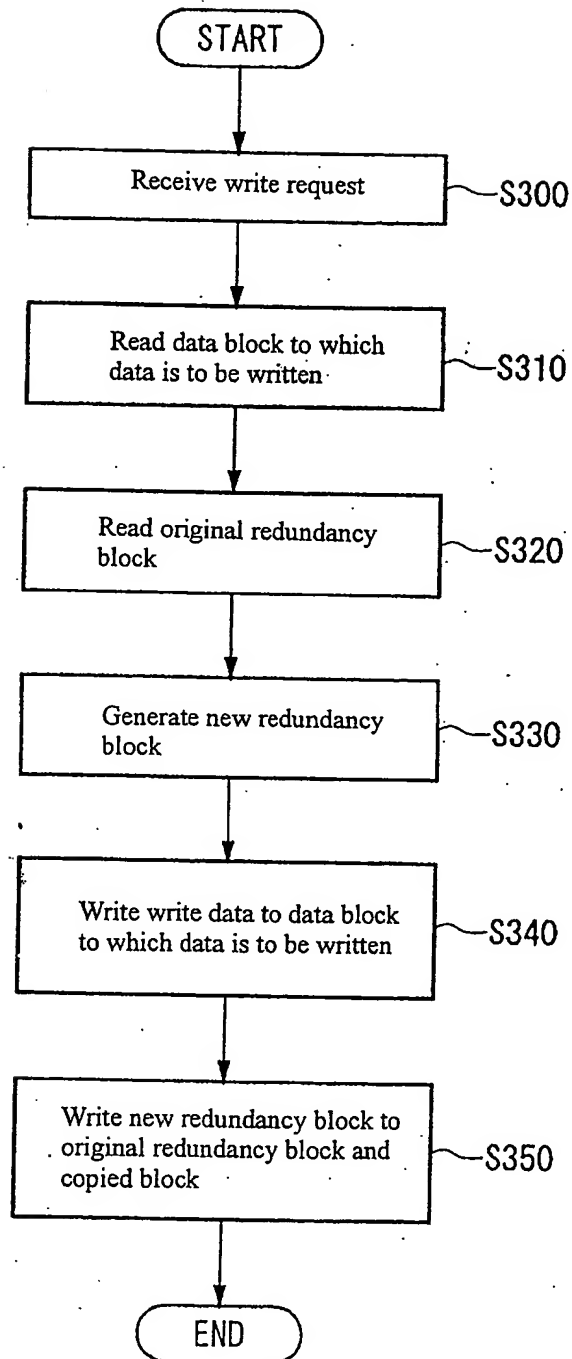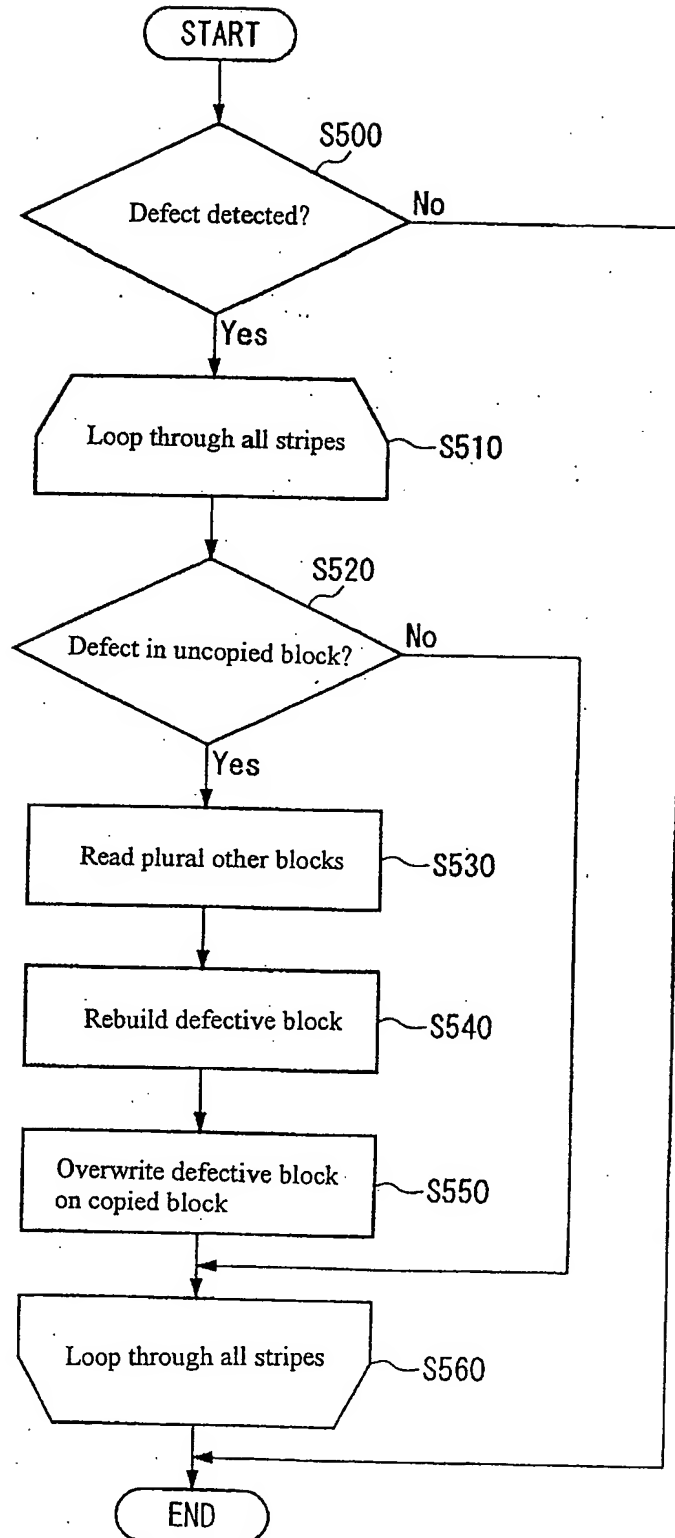
[Figure 4]

	Storage device 30a	Storage device 30b	Storage device 30c	Storage device 30d	Storage device 30e	Storage device 30f
Stripe 1	DB1a	DB1b	DB1c	DB1d	PB1	PB1'
Stripe 2	DB2b	DB2c	DB2d	PB2	PB2'	DB2a
Stripe 3	DB3c	DB3d	PB3	PB3'	DB3a	DB3b
Stripe 4	DB4d	PB4	PB4'	DB4a	DB4b	DB4c
Stripe 5	PB5	PB5	DB5a	DB5b	DB5c	DB5d
Stripe 6	PB6'	DB6a	DB6b	DB6c	DB6d	PB6

[Figure 5]

```
                    ┌──────────┐
                    │  START   │
                    └────┬─────┘
                         │
                         ▼              S500
                    ╱─────────╲
                   ╱           ╲        No
                  ╱ Defect      ╲──────────────────┐
                  ╲ detected?    ╱                  │
                   ╲           ╱                    │
                    ╲─────────╱                     │
                         │ Yes                      │
                         ▼                          │
              ┌────────────────────┐                │
             ╱ Loop through all    │── S510         │
             │ stripes             │                │
             └────────────────────┘                │
                         │                          │
                         ▼              S520         │
                    ╱─────────╲                     │
                   ╱           ╲      No             │
              ╱Defect in uncopied╲──────────────┐   │
              ╲    block?         ╱              │   │
                   ╲           ╱                 │   │
                    ╲─────────╱                  │   │
                         │ Yes                   │   │
                         ▼                       │   │
              ┌────────────────────┐             │   │
              │ Read plural other  │── S530       │   │
              │ blocks             │             │   │
              └────────────────────┘             │   │
                         │                       │   │
                         ▼                       │   │
              ┌────────────────────┐             │   │
              │ Rebuild defective  │── S540       │   │
              │ block              │             │   │
              └────────────────────┘             │   │
                         │                       │   │
                         ▼                       │   │
              ┌────────────────────┐             │   │
              │ Overwrite defective│── S550       │   │
              │ block on copied    │             │   │
              │ block              │             │   │
              └────────────────────┘             │   │
                         │◄──────────────────────┘   │
                         ▼                            │
              ┌────────────────────┐                  │
              ╲ Loop through all   │── S560            │
               │ stripes           │                  │
               └───────────────────┘                  │
                         │◄─────────────────────────┘
                         ▼
                    ┌──────────┐
                    │   END    │
                    └──────────┘
```

[Figure 6]

	Storage device 30a	Storage device 30b	Storage device 30c	Storage device 30d	Storage device 30e	Storage device 30f
Stripe 1	DB1a	DB1b	DB1c	DB1d	PB1	(DB1b)
Stripe 2	DB2b	DB2c	DB2d	PB2	(DB2c)	DB2a
Stripe 3	DB3c	DB3d	PB3	(DB3d)	DB3a	DB3b
Stripe 4	DB4d	PB4	PB4'	DB4a	DB4b	DB4c
Stripe 5	PB5	PB5	DB5a	DB5b	DB5c	DB5d
Stripe 6	(DB6a)	DB6a	DB6b	DB6c	DB6d	PB6

[Figure 7]

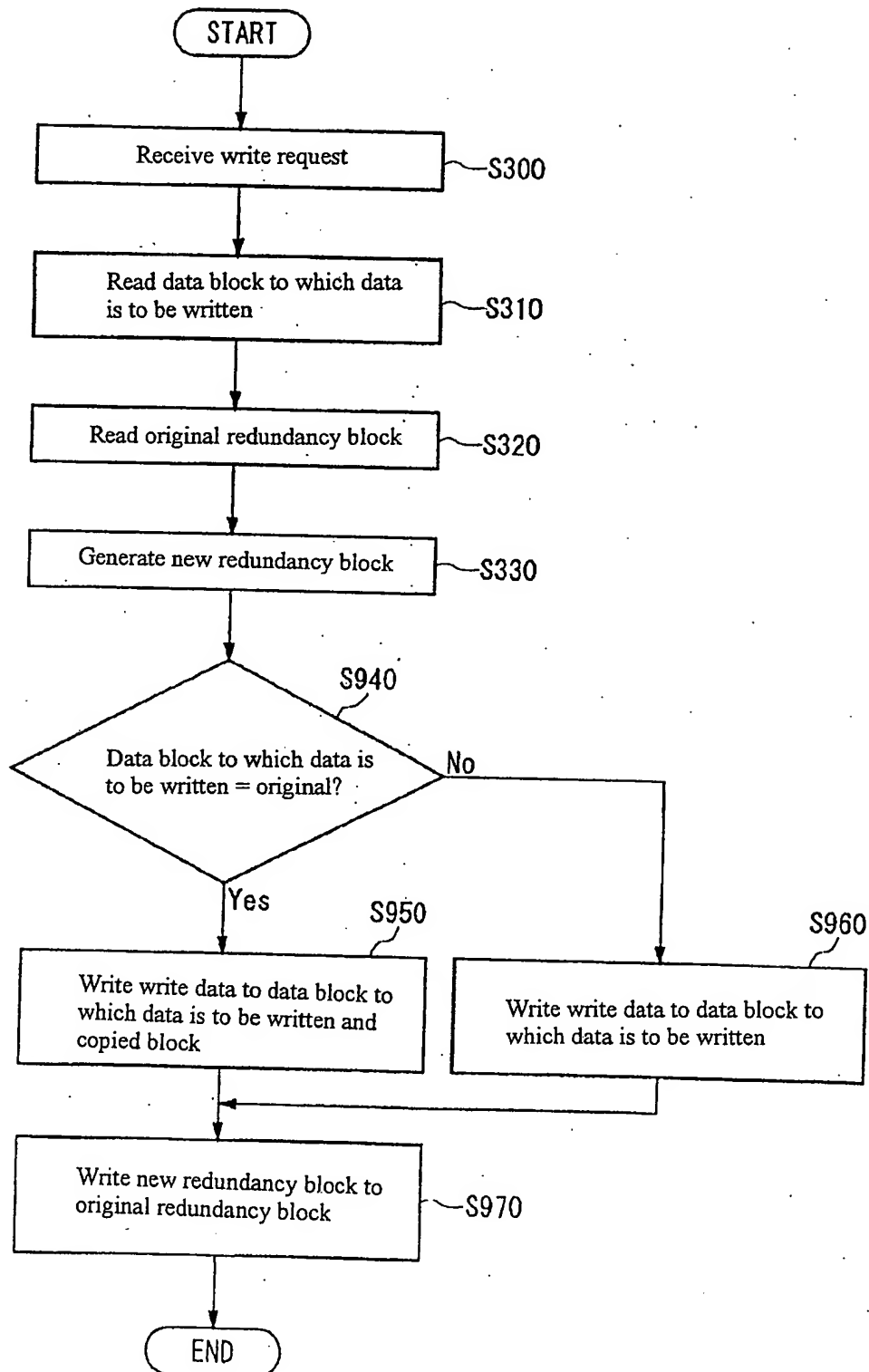|	Storage device 30a	Storage device 30b	Storage device 30c	Storage device 30d	Storage device 30e	Storage device 30f
Stripe 1	DB1a	[DB1b]	DB1c	DB1d	PB1	(DB1b)
Stripe 2	DB2b	[DB2c]	DB2d	PB2	(DB2c)	DB2a
Stripe 3	DB3c	[DB3d]	PB3	(DB3d)	DB3a	DB3b
Stripe 4	DB4d	[PB4]	PB4'	DB4a	DB4b	DB4c
Stripe 5	PB5	[PB5']	DB5a	DB5b	DB5c	DB5d
Stripe 6	(DB6a)	[DB6a]	DB6b	DB6c	DB6d	PB6

[Figure 8]

	Storage device 30a	Storage device 30b	Storage device 30c	Storage device 30d	Storage device 30e	Storage device 30f
Stripe 1	DB1a	DB1b	DB1c	DB1d	PB1	DB1a'
Stripe 2	DB2b	DB2c	DB2d	PB2	DB2a'	DB2a
Stripe 3	DB3c	DB3d	PB3	DB3a'	DB3a	DB3b
Stripe 4	DB4d	PB4	DB4a'	DB4a	DB4b	DB4c
Stripe 5	PB5	DB5a'	DB5a	DB5b	DB5c	DB5d
Stripe 6	DB6a'	DB6a	DB6b	DB6c	DB6d	PB6

[Figure 9]

```
                    ( START )
                        │
                        ▼
        ┌───────────────────────────────┐
        │     Receive write request     │──── S300
        └───────────────────────────────┘
                        │
                        ▼
        ┌───────────────────────────────┐
        │   Read data block to which data │──── S310
        │   is to be written             │
        └───────────────────────────────┘
                        │
                        ▼
        ┌───────────────────────────────┐
        │   Read original redundancy block │──── S320
        └───────────────────────────────┘
                        │
                        ▼
        ┌───────────────────────────────┐
        │   Generate new redundancy block │──── S330
        └───────────────────────────────┘
                        │
                        ▼
                      S940
                   ╱        ╲
                  ╱          ╲
                 ╱ Data block ╲        No
                ╱ to which data is╲──────────────┐
                ╲ to be written = ╱               │
                ╲ original?      ╱                │
                 ╲              ╱                 │
                  ╲   Yes      ╱                  │
                   ╲    │     ╱                   │
                        │                         │
         S950           ▼                 S960    ▼
    ┌────────────────────────────┐   ┌────────────────────────────┐
    │ Write write data to data   │   │ Write write data to data   │
    │ block to which data is to  │   │ block to which data is to  │
    │ be written and copied block│   │ be written                 │
    └────────────────────────────┘   └────────────────────────────┘
                   │                         │
                   ▼◄────────────────────────┘
    ┌────────────────────────────┐
    │ Write new redundancy block │──── S970
    │ to original redundancy block│
    └────────────────────────────┘
                   │
                   ▼
                ( END )
```

[Figure 10]

Stripe	Storage device 30a	Storage device 30b	Storage device 30c	Storage device 30d	Storage device 30e	Storage device 30f
Stripe 1	DB1a	DB1b	DB1c	DB1d	PB1	(DB1b)
Stripe 2	DB2b	DB2c	DB2d	PB2	(DB2c)	DB2a
Stripe 3	DB3c	DB2d	PB3	(DB3d)	DB3a	DB3b
Stripe 4	DB4d	PB4	(PB4)	DB4a	DB4b	DB4c
Stripe 5	PB5	DB5a	DB5a	DB5b	DB5c	DB5d
Stripe 6	DB6a'	DB6a	DB6b	DB6c	DB6d	PB6

[Figure 11]

1195
1190
10
1140 Hard disk drive
1160 CD-ROM drive
1150 FD drive
1120 RAM
1110 ROM
1100 CPU
1182 Host controller
1184 I/O Controller
1170 I/O chip
1175 Graphic controller
1130 Communication I/F
1180 Display
Network